CALIFORNIA AGRICULTURAL EXTENSION SERVICE
UNIVERSITY OF CALIFORNIA
BERKELEY

TURKEY MASHES ADJUSTED FOR CHANGING FEEDSTUFF SUPPLIES

(Supplement to Extension Circular 110)

The following turkey-mash formulas are designed to meet changes in the supply of certain feedstuffs. They are particularly recommended during shortages of fish meal or when soybean meal is favorably priced as compared with fish meal.

Where three formulas are given, the III mash in each case has the minimum amount of animal-protein concentrate that may be expected to give reasonably satisfactory results.

TABLE 1
Mashes for Breeder Turkeys
(Pounds per ton)

	Containing 20 per cent protein[a]			Containing 30 per cent protein[b]	
	I	II	III	I	II
Fish meal	160	100	80	360	200
Meat meal	0	100	0	0	200
Soybean meal[c]	300	280	440	720	680
Dried whey or equivalent[d]	100	100	100	200	200
Alfalfa meal[e]	300	300	300	500	500
Bone meal or equivalent[f]	50	40	60	80	80
Ground limestone or equivalent[g]	40	40	40	80	80
Salt, iodized	20	20	20	40	40
Vitamin-D carrier, 400-D[h]	10	10	10	20	20
Wheat bran or mill run	300	300	300	0	0
Ground grains	720	710	650	0	0
Totals	2,000	2,000	2,000	2,000	2,000

[a] To be fed with approximately equal quantities of grain. These mashes contain about 20 per cent crude protein, 2.4 per cent calcium, and 1.1 per cent phosphorus.

[b] To be fed with approximately three parts of grain. These mashes contain about 30 per cent protein, 4.5 per cent calcium, and 1.5 per cent phosphorus.

[c] Linseed meal may be substituted for soybean meal at levels of 2 per cent in the mashes, and of 4 per cent in the high-protein mashes.

[d] Dried whey or other riboflavin carrier (dried skim milk, fermentation by-products, etc.) having 30 micrograms of riboflavin per gram or proportionate amounts of different guaranteed potencies.

[e] Fresh greens should be fed whenever available at the rate of 20 to not more than 50 per cent by weight of the mash and grain intake, or about 10 to 30 pounds to each hundred birds daily. If a regular supply of fresh alfalfa or other greens is available, the alfalfa meal in the mashes may be reduced by one third and the ground grains correspondingly increased.

[f] Steamed bone meal, sterilized raw bone meal, spent bone black, dicalcium phosphate, or defluorinated rock phosphate.

[g] Ground limestone, oyster shell, clam shell, calcite, or equivalent calcium carbonate carrier of suitable poultry-feeding grade. It is suggested that a manganese carrier be premixed in the calcium carbonate in an amount equivalent to 4 ounces of manganese sulfate or 3 ounces of precipitated manganese carbonate per 40 pounds of calcium carbonate carrier.

[h] Or proportionate amounts of poultry vitamin-D carriers of different guaranteed potencies. The amount recommended does not fully meet the birds' needs, hence, during prolonged periods of wet or foggy weather the vitamin-D carrier should be doubled.

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TABLE 2
Mashes for Starting and Growing Poults
(Pounds per ton)

	Starting mashes[a] (24 per cent protein)			Growing mashes[b] (20 per cent protein)		
	I	II	III	I	II	III
Fish meal	240	140	80	160	100	60
Meat scrap	0	140	0	0	100	0
Soybean meal[c]	400	300	650	300	300	480
Dried whey or equivalent[d]	80	80	80	60	60	60
Alfalfa meal (good quality)	200	200	200	200	200	200
Cane molasses	20	20	0	20	20	20
Salt, iodized	10	10	20	20	20	20
Steamed bone meal or equivalent[e]	20	0	40	40	20	50
Ground limestone or equivalent[f]	40	40	40	40	40	40
Vitamin-D carrier, 400-D[g]	10	10	10	0	0	0
Wheat bran or mill run	300	300	300	300	300	300
Ground corn, milo, or kafir	300	300	280	200	200	200
Ground wheat	200	200	200	200	200	200
Ground barley	180	260	100	460	440	370
Totals	2,000	2,000	2,000	2,000	2,000	2,000

[a]No grain is fed with the starting mashes for the first few weeks. These mashes contain about 24 per cent protein, 2 per cent calcium, and 1 per cent phosphorus.

[b]May be fed as all-mash rations up to about 10 weeks (see recommended level of protein for poults of different ages, table 4). These mashes contain about 20 per cent protein, 2.1 per cent calcium, and 1 per cent phosphorus.

[c]Cottonseed meal may be substituted for the soybean meal in formulas I and II, and in amounts up to 20 per cent (400 pounds per ton) in formula III; linseed meal may also replace soybean meal in amounts up to 2 per cent (40 pounds per ton) of the mash.

[d]Dried whey or any other riboflavin carrier (dried skim milk, fermentation by-products, etc.) having 30 micrograms of riboflavin per gram, or proportionate amounts of different guaranteed potencies.

[e]Steamed bone meal, sterilized raw bone meal, spent bone black, dicalcium phosphate, or defluorinated rock phosphate.

[f]Ground limestone, oyster shell, clam shell, calcite, or equivalent calcium carbonate carrier of suitable poultry-feeding grade. It is suggested that a manganese carrier be premixed in the calcium carbonate in an amount equivalent to 4 ounces of manganese sulfate or 3 ounces of precipitated manganese carbonate per 40 pounds of calcium carbonate carrier.

[g]Or proportionate amounts of poultry vitamin-D carriers of lower guaranteed potencies.

TABLE 3

High-Protein Mashes for Growing Turkeys[a]
(Pounds per ton)

	Containing 30 per cent protein			Containing 35 per cent protein		Containing 40 per cent protein	
	I	II	III	I	II	I	II
Wheat bran or mill run	520	520	460	260	240	0	0
Fish meal	360	200	200	540	300	760	500
Meat scrap	0	200	0	0	300	0	400
Soybean meal[b]	600	600	800	600	600	600	500
Alfalfa meal	300	300	300	400	400	440	460
Cane molasses[c]	20	20	20	20	20	20	20
Steamed bone meal or equivalent[d]	120	80	140	100	60	80	20
Ground limestone or equivalent[e]	40	40	40	40	40	60	60
Salt, iodized	40	40	40	40	40	40	40
Totals	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Approximate per cent calcium	4.0	3.9	4.0	4.2	4.3	5.1	5.0
Approximate per cent phosphorus	1.9	1.8	1.9	2.0	1.9	2.0	1.9

[a] See table 4 for recommendations regarding the amount of grain to feed with these mashes to poults of different ages.

[b] Cottonseed meal may be substituted in amounts up to 20 per cent of the mash (400 pounds per ton) in place of the soybean meal; linseed meal may also replace soybean meal in amounts up to 2 per cent (40 pounds per ton) of the mash.

[c] The cane molasses may be increased to 3 per cent if desired. It may also be omitted and an equivalent amount of wheat bran or ground grains added.

[d] Steamed bone meal, sterilized raw bone meal, spent bone black, dicalcium phosphate, or defluorinated rock phosphate.

[e] Ground limestone, oyster shell, clam shell, calcite, or equivalent calcium carbonate carrier of suitable poultry-feeding grade. It is suggested that a manganese carrier be premixed in the calcium carbonate in an amount equivalent to 4 ounces of manganese sulfate or 3 ounces of precipitated manganese carbonate per 40 pounds of calcium carbonate carrier.

TABLE 4

Approximate Percentages of Protein Required by Growing Turkeys at Different Ages; and the Proportions of Grains and Mashes Required to Give the Recommended Level of Protein in the Ration

Age of poults in weeks	Recommended per cent of protein in the complete ration	Pounds of grain to be fed in addition to 100 pounds of growing mash[a]			
		Mash of 20 per cent protein (table 2)	Mash of 30 per cent protein (table 3)	Mash of 35 per cent protein (table 3)	Mash of 40 per cent protein (table 3)
0-6	24	.....	.....	.....	.....
7-8	22	(Equal parts starting and growing mash)	67	100	150
9-10	20	(Growing mash only)	100	150	200
11-12	18	25	150	200	250
13-16	17	50	200	250	300
17-20	16	67	250	300	400
After 20	15	100	300	400	500

[a] For the first 6 weeks the turkeys are fed starting mash (table 2) without added grains.

3m-5,'43(6239)